REMARKS

Claims 1, 3-22, 24-29, 44-46, 48-50, and 52-55 are currently pending. Claim 51 has been cancelled without prejudice. Claims 1, 24, 27, 28, 44, 48-50, and 52-55 have been amended for clarity. It is respectfully submitted that no new matter has been added.

The Patent Office rejected claims 1, 3-17, 19-22, 24-29, 44-46, and 48-55 under 35 U.S.C. 112, second paragraph, as being indefinite.

The claims have been amended to recite "optical media disk substrates." Claims 28 and 48 have been amended to recite "including the optical media disk substrate." Where appropriate, the claims have been amended to recite "a first unit for applying a coating including a photocurable photoinduced color forming composition." It is respectfully requested that the Patent Office withdraw its rejection of claims 1, 3-17, 19-22, 24-29, 44-46, and 48-55 under 35 U.S.C. 112, second paragraph.

The Patent Office rejected claims 1, 3-17, 19, 20, 22-29, 44, 45, 47, and 48 under 35 U.S.C. 102(b) as being fully anticipated by Gaudiana et al. '118.

Gaudiana is directed to camera film and discloses a process for producing an image that uses an imaging medium comprising an acid-generating layer or phase comprising a mixture of a superacid precursor, a sensitizing dye and a secondary acid generator, and a color-change layer comprising an image dye. The imaging media is exposed to light at 501 nm (0.93 mW/cm.sup.2 exposure). Gaudiana discloses heat and pressure causes the colors to be developed (e.g., column 33, lines 43-65). In film production, it is conventional to produce the color film as a gelatin strip that is then applied to a cellulose or polyester base, a process far different from Applicant's claimed invention.

Gaudiana does not disclose a system for applying a marking to an optical media disk substrate. The claims recite "a first unit for applying a coating," a second unit for curing the coating with UV light of a first set of wavelengths, and a third unit for marking the coating with UV light of a second set of wavelengths that is substantially separate from the first set of wavelengths. Where are these units disclosed in Gaudiana? The claimed units are not inherent since the process of Gaudiana could involve multiple steps being performed at one location. Gaudiana also does not disclose a coating composition that is curable through the use of a first set

of wavelengths of ultraviolet light and that is markable through the use of a second set of wavelengths of ultraviolet light substantially separate from the first set of wavelengths. Applicant's claims recite a curing step in which a set of wavelengths of ultraviolet light are used to cure the coating; however, Gaudiana is silent as to a curing step.

Gaudiana does not disclose or suggest a system for applying a marking to an optical media disk substrate by imaging a marking on a spin coated coating that is both UV curable and UV imageable on a data readout side of an optical media disk substrate.

Thus, Gaudiana does not anticipate any of claims 1, 3-17, 19, 20, 22, 24-29, 44, 45, 47, and 48.

Regarding the Following Rejections under 35 U.S.C. 103(a)

MPEP 706.02 (j) recites as follows:

35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under **35 U.S.C. 103, the examiner should set forth in the Office action:**
(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
(B) **the difference or differences in the claim over the applied reference(s),**
(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See **MPEP § 2143 - § 2143.03** for decisions pertinent to each of these criteria.

Rejections under 35 U.S.C. 103(a)

The Patent Office rejected claims 1, 3-17, 18-20, 22-29, 44, 45, 47, and 48 under 35 U.S.C. 103(a) as being unpatentable over Gaudiana et al. '118, in view of Iwai et al. '746 and/or Patel et al. '820.

No Graham versus Deere analysis has been provided by the Patent Office so it is not clear

which differences Gaudiana is alleged as not to teach. Furthermore, the rejection under 35 U.S.C. 103(a) over Gaudiana of claims 1, 3-17, 19, 20, 44, and 45 is confusing since in the immediately preceding rejection, Gaudiana is considered a 35 U.S.C. 102(b) reference for these same claims.

Only claims 19, 21, and 48 recite a mask, the feature discussed by the Patent Office on page 4, lines 5-7, of the Final Office Action dated April 19 2007. Patel '820 discloses a method for producing a color image on a photosensitive medium in which color separation masks are sequentially generated in a smectic liquid crystal. Patel (column 14-27) discloses an LCD used to produce an image mask for photosensitive film 11 such as for a desk-top usable computer driven 35 mm slide making system (column 5, lines 41-45).

Iwai '746 is directed to printing machines (e.g., column 15, lines 16-18) and discloses a photosensitive resin composition including a high polymer binder, a monomer, and a photopolymerization initiator generating a radical on exposure to visible light of a wavelength of 400 to 700 nm. A method for manufacturing a printing plate is also disclosed.

The argon laser wavelength of 488 nm of Iwai '746 corresponds to blue or green in the visible spectrum. However, Applicant's claims recite that the imaging light is ultraviolet.

The Patent Office asserts that spin coating as taught in Iwai '746 would be an obvious modification of Gaudiana. Since Gaudiana is directed to a process relating to photographic film, would one of ordinary skill look to spin coating according to Iwai '746 (e.g., column 12, line 9) to provide a coating layer on the film of Gaudiana? Especially since the claims recite optical media disk substrates, Gaudiana, directed to photographic film, seems particularly irrelevant.

None of Gaudiana, Patel '820, and Iwai '746 disclose or suggest the claimed subject matter of a unit for applying a coating comprising at least one photocurable photoinduced (or, at least one photosensitive material and at least one photocurable material) color forming composition to form a coating over at least one data readout area on a data readout side of the optical media disk substrate, a unit comprising a first ultraviolet (UV) light source for exposing the coating to wavelengths of UV light wherein the wavelengths of UV light cure the coating upon the at least one readout area; and a unit for creating an image of the marking; the third unit comprising a second UV light source for exposing at least a portion of the coating to the image for recording the marking into the coating, wherein the wavelengths produced by the first UV

light source comprise wavelengths substantially separate from wavelengths of the second UV light source.

Thus, claims 1, 3-17, 18-20, 22, 24-29, 44, 45, 47, and 48 are allowable over Gaudiana et al. '118, in view of Iwai et al. '746 and/or Patel et al. '820.

The Patent Office rejected claims 1, 3-22, 24-29, 44-46, 48, and 54 under 35 U.S.C. 103(a) as being unpatentable over Krasulak, WO 99/65696, in view of Gaudiana '118.

None of the cited references (including Krasulak) teach how to make a visible image on the readout side of an optical disc and still have the disc playable. In fact, the image creation methods of each cited reference would result in a non-playable disc, i.e., those methods are not suitable for the purpose of forming an image in the data readout area. The cited references all disclose various methods of creating images: some use photosensitive layers, some use masks. Applicant's claim 1 recites "readout area" and "optical media disk substrate."

Krasulak discloses a method and apparatus for forming a permanent image on a substrate such as an optical disk (2) or compact disk. The disk (2) is covered with an ink having a pigment having a change in visibility due to electromagnetic radiation (3) of a first wavelength and being curable by irradiation at a second wavelength. The first wavelength (i.e., infrared, page 3, lines 30-32, claim 2) exposure via a mask (1) determines the resultant image and the second wavelength (i.e., ultraviolet, page 3, lines 35-38) exposure cures the image. An LCD may be used rather than a mask (1) to determine the image whilst the image information may be stored electronically in a computer to avoid the need for physical storage of the mask (1). A disk (2) having a fixed image is also disclosed.

Krasulak's patent is distinct from the other cited references because Krasulak discusses CDs. However, Krasulak does not address imaging on the readout side of the disc. Instead, Krasulak's disclosed process is based on photosensitive pigments (pigments are particles rather than molecules) that is different from Applicant's process for two reasons: chemistry (Applicant discloses dyes which are molecules) and noninterference with the readout (the pigments in Krasulak being particles that would likely cause scattering and make the disc unreadable). Krasulak's process also involves imaging of uncured ink, then curing it, while the claimed invention recites the reverse order of first curing and then imaging. **Furthermore, Krasulak's order of light exposure would likely produce topography on the cured layer that may be**

acceptable on the label side of the CD, but is unacceptable for the readout side of a CD.

Krasulak does not disclose multiple units each with their own function and does not disclose an automate conveyor for transporting the optical media disk substrate from unit to unit.

Contrary to the Patent Office's assertions on page 5, of the Final Office Action dated June 19, 2007, Applicant's method is embodied in the structure of the system, so, order is important. Also, as Applicant has described as the current state of the art, the two sides of an optical media disk substrate are not interchangeable for labeling purposes. Because the labeling has heretofore been problematic for placement on the data readout side, one of ordinary skill in the art would not be inclined to incorporate a teaching for imaging information on a non-data readout side to imaging information on the data readout side.

As none of the cited references disclose or suggest imaging a marking on a data readout side of an optical media disk substrate, multiple units for processing, or an automated conveyor for transporting the optical media disk substrates from unit to unit, claims 1, 3-22, 24-29, 44-46, 48, and 54 are allowable.

The Patent Office rejected claims 1, 3-22, 24-29, 44-46, 48, and 49 under 35 U.S.C. 103(a) as being unpatentable over Krasulak, WO 99/65696, in view of Gaudiana '118, and further in view of Grossa, DE 4240141 and Seaki '373.

The Patent Office rejected these same claims – 1, 3-22, 24-29, 44-46, 48, and 49 – as being unpatentable over Krasulak and Gaudiana only. In the present rejection in which Grossa and Seaki is cited, Applicant requests that the difference(s) not alleged by the Patent Office to be taught by Krasulak or Gaudiana be described.

Seaki discloses a multicolor recording material whose color may be developed through irradiation by visible light, infrared rays, or X rays in which the contained leuco dyes are oxidized. Seaki (column 5, lines 44-49) discloses the image-forming material forms a stable latent image when subjected to heating treatment and provides a stable image when subsequently subjected to all-over exposure to form an image and then to the heating treatment. Seaki discloses that the leuco dye has a photo oxidizing agent that is activated by ultraviolet light (column 9, lines 7-9). The support for the image-forming layer of Seaki is disclosed as papers of from tissue paper to thick board, regenerated cellulose, cellulose acetate, cellulose nitrate, polyethylene terrephthalate, polyethylene, polyvinyl acetate, polymethyl methacrylate, and

polyvinyl chloride (column 6, lines 40-44).

Seaki is directed to photographic film (e.g., column 1, lines 16 and 25) and so does not address problems that would be encountered by placing an image on the data readout side of an optical media disk substrate.

Grossa discloses a radiation-polymerisable photoresist composition that (I) contains a polymeric binder (II); an ethylenically unsaturated compound (III) undergoing additional polymerisation; a leuco dyestuff (IV); a hexaaryl-bisimidazole free radical initiator compound (V) activated by radiation; and a visible and/or IR-sensitising dyestuff (VI). The material was exposed for 60 s with 400 - 500 nm light in contact with a mask with a mark (as a transparent image), giving a violet image on a yellow ground. It was then exposed for 60 s with 340-380 light through a circuit mask (as a transparent image). Grossa is directed to a photoresist for a circuit board.

Grossa and Seaki do not cure the deficiencies of Krasulak and Gaudiana. None of the cited references teach how to make a visible image on the readout side of an optical disc and still have the disc playable. As none of the cited references disclose or suggest a system for imaging a marking on a spin coated coating that is both UV curable and UV imageable on a data readout side of an optical media disk substrate, claims 1, 3-22, 24-29, 44-46, 48, and 49 are allowable over these references.

The Patent Office rejected claims 1, 3-22, 24-29, 44-46, 48, 54, and 55 under 35 U.S.C. 103(a) as being unpatentable over Krasulak, WO 99/65696, in view of Gaudiana '118, further in view of Tachikawa '588.

Tachikawa discloses spin-coating a UV-curable resin onto the reflective layer at from 50 to 5000 rpm (column 7, lines 48-57). Tachikawa does not disclose a coating that is both UV curable and UV imageable, as claimed.

Tachikawa does not cure the deficiencies of Krasulak and Gaudiana. None of the cited references teach how to make a visible image on the readout side of an optical disc and still have the disc playable. As none of the cited references disclose or suggest a system for imaging a marking on a spin coated coating that is both UV curable and UV imageable on a data readout side of an optical media disk substrate, claims 1, 3-22, 24-29, 44-46, 48, 54, and 55 are allowable over these references.

The Patent Office rejected claims 1, 3-22, 24-29, 44-46, 48-50, and 52-54 under 35 U.S.C. 103(a) as being unpatentable over Usami '536, in view of Krasulak WO 99/65696 and Gaudiana '118.

Usami discloses a production system for producing an optical information recording medium in which a dye layer that is dried (paragraph 0068) and then a UV-curable layer (paragraph 0091) is formed on it. The manufacturing process of Usami does not disclose applying a coating that is UV curable and UV imageable, as claimed.

Usami does not cure the deficiencies of Krasulak and Gaudiana. None of the cited references teach how to make a visible image on the readout side of an optical disc and still have the disc playable. As none of the cited references disclose or suggest a system for imaging a marking on a spin coated coating that is both UV curable and UV imageable on a data readout side of an optical media disk substrate, claims 1, 3-22, 24-29, 44-46, 48-50, and 50-54 are allowable over these references.

The Patent Office rejected claims 1, 3-22, 24-29, 44-46, and 48-54 under 35 U.S.C. 103(a) as being unpatentable over Usami '536, in view of Krasulak WO/9965696 and Gaudiana '118 and Nakada JP 2000-266683.

Nakada discloses an in-line inspection for defects in a process for making optical disks.

Nakada does not cure the deficiencies of Usami, Krasulak and Gaudiana. None of the cited references teach how to make a visible image on the readout side of an optical disc and still have the disc playable. As none of the cited references disclose or suggest a system for imaging a marking on a spin coated coating that is both UV curable and UV imageable on a data readout side of an optical media disk substrate, claims 1, 3-22, 24-29, 44-46, and 48-54 are allowable over these references.

In summary, as none of the cited references disclose or suggest a system for applying a marking to an optical media disk substrate by imaging a marking on a spin coated coating that is both UV curable and UV imageable on a data readout side of an optical media disk substrate, claims 1, 3-22, 24-29, 44-46, 48-50, and 52-55 are allowable.

The Examiner is respectfully requested to reconsider and remove the rejections of the claims under 35 U.S.C. 102(b) or 103(a) based on Gaudiana '118, Patel '820, Seaki, Iwai '746, Grossa, Krasulak, Usami, Tachikawa, and/or Nakada, alone or in combination, and to allow all of

the pending claims 1, 3-22, 24-29, 44-46, 48-50, and 52-55 as now presented for examination. An early notification of the allowability of claims 1, 3-22, 24-29, 44-46, 48-50, and 52-55 is earnestly solicited.

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Respectfully submitted:

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